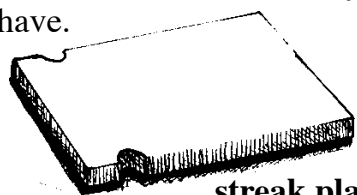


the lowest hardness (finger-nail) and move up (penny, then nail, then steel file and so on), until you find a material that will scratch your sample. This will give you a rough estimate of the hardness of your sample.

COLOR

The color of a mineral is usually its most distinctive physical characteristic. However, you cannot identify a mineral by color alone. Many times, a mineral's color is caused by chemical impurities in quantities too small to affect the basic chemical composition of the mineral. Quartz is one mineral that comes in all different colors. Even though color alone is not enough to identify a mineral, pay attention to the color. It will provide at least one clue to the kind of mineral you have.



streak plate

STREAK

If you took a mineral and pulverized it, the color of the mineral powder is known as its streak. Sometimes the streak of a mineral is not the same color as the mineral itself. An easier way to test streak, rather than grinding up the mineral, is to rub the mineral on a piece of unglazed tile. This tile is known as a streak plate. Sometimes, a

mineral will not leave a streak on the plate. This is because the mineral is harder than the streak plate (6.5).

LUSTER

The luster of a mineral is the way that its surface reflects light. Luster is more of a description of a mineral, rather than a specific test. Some minerals look like metals. These minerals, such as gold, have a metallic luster. Other common lusters are described below. Just as with color, you should check the luster of a mineral on a freshly-broken surface, not one that has been weathered.

Adamantine: brilliant and shiny, like a diamond

Glassy: looks like glass

Resinous: looks like plastic

Greasy: looks like the surface is oily

Pearly: looks like a pearl

Silky: looks like silk or rayon

Dull: has a rough surface, or a surface with no luster

CLEAVAGE & FRACTURE

Cleavage is the ability of a mineral to break along one or more smooth, flat lustrous surfaces, called planes. If a mineral breaks easily in one or more directions, it has cleavage. Feldspar is a good example of this. When some minerals break, they may have a jagged or irregular appearance. Geologists call this **frac-**

ture. Quartz is a good example of a mineral with fracture.

CAUTION: Always wear safety goggles when breaking a mineral with a rock hammer.

SMELL

A few minerals can be identified because they have a very distinctive, sometimes stinky, smell. Sulfur is one example. Sulfur-containing minerals, like **pyrite**, often smell like rotten eggs. Some minerals, like kaolinite, smell like dirt. If you heat arsenopyrite, it will smell like garlic.

FLUORESCENCE

Many minerals will glow when they are placed under an ultraviolet, or “black” light. Many different minerals have fluorescence and some minerals will glow in several different colors. For this reason, fluorescence alone cannot identify a mineral. However, it can provide valuable clues to a mineral's identity.

MAGNETISM

Some minerals that contain iron will be attracted or repelled by a magnet. Others, like lodestone, are natural magnets and will attract objects containing iron, like a nail.

